HYPOGLYCEMIC ACTIVITY AND TOXICOLOGY STUDIES OF ETHYL ACETATE EXTRACTS OF *Pereskia bleo* LEAVES

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This Final Year Project Report entitled **"Hypoglycemic Activity And Toxicology Studies Of Ethyl Acetate Extracts Of *Pereskia Bleo* Leaves"** was submitted by Abdul Mutalib bin Kasim, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

HYPOGLYCEMIC ACTIVITY AND TOXICOLOGY STUDIES OF ETHYL ACETATE EXTRACTS OF *Pereskia bleo* LEAVES

Pereskia bleo is a leafy cactus which belongs to Cactaceae family and it is commonly used among the traditional medicine practitioners to prevent or treat diabetes by consuming the leaves. The hypoglycemic activity of ethyl acetate extract obtained from the leaves of *Pereskia bleo*, the existing plants with no known scientific report on their blood glucose lowering potentials, were investigated using fasting blood glucose level method and oral glucose tolerance test in normoglycemic rats. The extracts were prepared using soxhlet apparatus of dried powdered leaves of the *Pereskia bleo* by ethyl acetate solution and subsequent purification of the extract using rotary evaporator. The extracts were administered to the animal models via the oral route. Their blood glucose levels were determined using an Accu-Chek Glucometer, at various time intervals. The acute toxicity profiles of ethyl acetate extract of *Pereskia bleo* leaves were investigated by examining the blood levels of alanine aminotransferase, aspartate aminotransferase, urea and creatinine as well as, the gross examination of liver and kidney. The ethyl acetate extract of *Pereskia bleo* leaves demonstrate a significant blood glucose lowering activity up to 4 hour with 19% reduction of blood glucose level from initial level in a dose dependent response in normoglycemic rats. It is possible that the extract may act by potentiating the pancreatic secretions or increasing the glucose uptake, its mode of action involved the stimulation of insulin production. The findings indicated that the ethyl acetate extract of *Pereskia bleo* leaves possess hepatoprotective ability that increase liver function leading to blood glucose lowering in normoglycemic rats. The ethyl acetate extract of *Pereskia* bleo leaves considered safe to use based on the outcome of acute toxicity study in experimental rats with no significant changes between control and treatment rats.